

432 MHz AND ABOVE EME NEWS

JUNE 1999 VOL 27 #6

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EME NETS

14.345, 10 AM ET SATURDAYS, AFTER VARO NET SUNDAYS:

- **NET CONTL: JOE, K1RQG (207-469-3492), E-MAIL: Joe, K1RQG**
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CONDITIONS

This has been a very quiet month with little in the way of reports. Conditions were not exceptional and activity typical of a post contest SW. The only real bright spot was PY5ZBU presence on both 70 and 23 to give out SA for WAC off the Moon. What is going on with all those dxpedition possibilities discussed earlier in the year? Summer is almost here, but I do not have one definitive dxpedition to announce!

AL7OB

Mike recently finished a 16 x 12 el (NBS2.2) array and has about 700 W from an RIW PA -- I have made some contacts on 144 EME and have now converted my array over to 432. I heard 70 cm signals off the Moon during the Eur contest, but condx were not good here, and I was not heard by anyone. I also had to leave on a trip, so I only had a couple of hours to try. But, now I am ready and interested in skeds! I worked **DL9KR (559/559)** for my 1st 432 EME QSO, so I know the system is working. I plan to start working on another 432 system this summer. I am also going to get on 1296. I have a 14' dish and a 1.2G module for the FT-736. I just need a preamp and PA for 23 cm.

CT1DMK

Luis been concentrating on the microwave bands -- Since the DUBUS contest I have been QRV on only 5.7 and 10 GHz. During the contest I worked on 5.7 GHz **SM4DHN (O/O)** with a good signal, I would bet that Lars was using circular pol as he came with exactly equal signals on hor and vert pol, (that never happened before with any other linear pol station). I also contacted **LX1DB (O/O)** on vert pol. Nobody was found on random, despite 5 hours of endless CQs. On the 2nd Moon pass of the contest weekend, I switched to 10 GHz and worked **G3WDG (M/O)** at the start of his Moon acquisition, which was also my very last minutes of Moon. There are only a few weekends with favorable declination when the Moon is in both Charlies window and inside my polar mount's capabilities. Later I worked **DL2LAC (O/O)** with good copy, but wide signal spreading. I think I was on 5.7 GHz when just about everyone else was on 10 GHz. I've made a few improvements to my 5.7 GHz system. I have a new LNA with 2 x ATF35076s, which give me about 27 dB of gain and 0.4-0.5 dB NF - (its hard to tell exactly when it came to these low NFs. I also made a few adjustments on the TWT supply and on the transverter... I'm happy for the time being. So I will be stable with V/H, 33 W and 1.2 dB of Moon noise. I also worked **VE4MA (O/O)** on 5.7

GHz with good signals and one week later **LX1DB (O/O)** on 10 GHz - now with a much stronger signal than before. In the Jan issue of DUBUS, you will find my TWT power supply design article. I am happy to inform all that I have the PCB's and cores available for those who are interested in playing with deadly high voltages - Hi.

DF3FB

Ruediger was active on 432 during the last SW. He worked **JA5NNS** during his sked quite easily. His 2nd sked with WA4NJP was NIL. He thought WA4NJP might have been there a few times, but condx were not too good. Additionally, Ruediger QSO'd **N9AB** for an initial and K4QI on random. Heard were RW1AW - just when he finished up with N9AB, then RW1AW disappeared suddenly.

DL3EAG

Stephan was also active on 70 cm during SW. His sked with **JA5NNS** was also successful, but as Ruediger (above), his sked with WA4NJP produced only some sky-noise. Stephan called N9AB and RW1AW, but got no response. He also heard K4QI at moonset, but it was too late to finish a QSO (only 2 deg el).

DL7APV

Bernd reports not much fun during the SW on 432 -- In skeds I heard **VK4AFL only (T-M)** for a partial, and nil from UA9FAD and YO2IS. No echoes this time, but later QSO'd **HP3XUG (M/M)** for an initial #. It seemed that Faraday was not very cooperative. I am busy working on a solid state amp for 432, which will produce 700 W by combining 2 x 350 W modules.

F6CGJ

Louis reports good WX for the 2nd part of the Eur EME contest. He operated on both 2 and 144. Louis found condition OK on 1296 and ended with a final score of 48x27. High points were QSOs with **VK5MC** and **DJ5MN** on random who was using only 1 yagi at the time.

F6KSX

J-Jacques, F1EHN reports -- The F6KSX EME group was QRV on Saturday, 27 March during the Eur contest. We were active only on 3 cm. Activity was very poor during the Eur window, but better later during the NA window. The operators were F1EHN, F5HRY, F6DLA and F6ECX. The station consisted of a 50 W TWTA, 3.3 m dish, 0.8 dB NF LNA, 10 GHz to 28 MHz direct transverter with an Image Reject Mixer (IRM) and F1EHN's tracking system. We worked **IW4BTP (539/549)** for initial #19, **DL2LAC (M/O) #20, S57UUU (O-O), OH2AXH (O/O) #21** for the 1st F-OH on 3 cm, **WA7CJO (559/O) - very strong, VE4MA (M/O) #22** and **VE7CLD (M/M) #23**. All QSOs were made on random. I support more single band contests to improve EME activity on the higher bands.

G3LTF

Peter wasn't able to get on for much of the SW due to conflicting activities -- I was only unable to work on 432 as my el indicator broke (now repaired). On 432 on 24 April I worked UT3LL for initial #340 and nil from S57RA. I called RW1AW for 45 min, but he could not get my call correctly; he was a good signal. On 25 April I heard nil from WL7U and N2HLT, but contacted **WE2Y #341** and **WB0GGM #342**. Heard were N9AB, DF3RU (on SSB), DL8OBU, JA4BLC and W7CNK. I hope this month to improve my 13 cm signal level. Concerning the idea of alternate sked weekends for the microwave bands, having the 2nd day dedicated to the higher bands sounds OK to me. I guess the Europeans and JAs could have a Friday evening activity period as well every SW, while NA stations are still hard at work.

K3HZO

Harry worked 5 stations on 23 cm during the SW -- On skeds **PY5ZBU** became initial #65. Nil was heard from WA9OUU or any of my other sked stations - rather frustrating. I did work numerous randoms, so the station appears to be working fine.

K5TR

George is interested in EME. On 432 he has a 31 el Hygain yagi at 60' fed with 70' of 7/8 hardline and a 700 W PA, but no elevation - as yet. He also has a 10' TVRO dish for 1296 but not much power. He is interested in trying some skeds and can be reached at: [**K5TR**](#) tel 830-868-2510, or WEB:

[**K5TR's WEB Page**](#)

K7XQ

Jeff is temporarily QRT on 70 cm EME -- During the April SW, I had a catastrophic failure. I lost the solid state driver amp to my tube PA. I can now only put out 50 W. I also just took down my 432 EME array per the advice of Mike, K6MYC. He told me not to have a 432 array inside of a 144 MHz array. This causes serious problem in the patterns. Something I do not want to lose especially on EME. I will be off for a little, while I get things back up. [Some stations have had success with 432 arrays inside their 144 arrays, but other have had serious problems. Generally the 2 m antennas affect the 70 cm yagis, but not vice versa.]

LX1DB

Willie was active on 10 GHz and 70 cm in April. He now has 50 W on 3 cm at the WG switch of his feed. He uses 2 transistor amps in parallel to achieve the 50 W. On 3 cm Willie CWNR AA5C and QSO'd **CT1DMK**, **GW3WDG** and **G4KGC**. On 432 he heard HP3XUG and DL7APV.

N6BQ

Hoppy's activity report for April follows -- I was unable to operate during Eur window on 24/25 April due to high winds. I did get on during the JA window on 25 April and worked **K2UYH**, and heard **JA7BMB** and **W7SZ**. On 26 April the wind was more moderate and I was able to work **W7SZ** and **OZ6OL** on random. Conditions seem to be down this weekend. The highlight of the month was installing my 5 m dish at WA6KBL's QTH on 22 April with lots of help, especially from **W6HD** and members of the local radio club. We must all thank **W6HD** who led the effort in driving the manlift and hoisting the radar mount, counterweight assy, and dish on to the tower. It was a windy day, but the job was finished with no casualties. Now the fun work begins - getting all the electronics hooked up. The Feed support bracket is being made by **W6HD**. The feed support poles and miscellaneous cover plates still need to be installed, but the absolute position indicators and servo system worked beautifully. It appears we will see full moon at 2 degs el during normal to high dec. We all feel confident this will be a real performer with the TH327 PA and approx 2 kW near the feed on 23 cm. Our hearty thanks also goes out to Jeffrey, WA6KBL who did the majority of the planning, organization, and supervision. Excellent job, Jeffrey. Many of the members of the local radio club participated every step of the way, in preparation for this project and we'd not be here now without their help. Our goal is to try and be QRV on 23 cm with the new dish during the May SW, but lots of work still needs to be accomplished. The 10 GHz equipment should arrive this week and with a 32 W TWT at the feed, we are hoping to be QRV on 10 GHz for the June SW. We will see how things progress, but we are definitely getting close.

N9AB

Andy is experimenting on 70 cm EME with a new form of digital (data) transmission, PSK31, which has much better performance in the presence of noise than the old FSK RTTY format or standard packet. He has copied his own PSK31 echoes, but notes it is difficult to echo test in this mode. Andy is interested in testing PSK31 EME with others having the capability. His e-mail address is: [Andy, N9AB](#)

NU7Z

Rick has his dish back in operation. The new hydraulic system is working very well. He is seeing 13.5 dB of Sun noise on 13 cm and expects be QRV for the May SW. Rick is not on 23 cm at present.

OK1DFC

Zdenek wants everyone to have his correct address. Many hams have been sending QSLs, which he does not receive because they are addressed to a very old address from CALL book. His address is (SAMEK Zdenek, Okruzni 338, 435 13

MEZIBORI, Czech Republic). He was not QRV for the April SW because of a business trip. Zdenek is the 1st to offer to host the 2002 EME Conference. He writes -- I am ready with my friends to organize the EME Conference in 2002 in Prague – the capitol city of the Czech republic. This would be the 1st EME conference in Eastern Eur.

ON5RR

Marc writes -- Michel and I have been quite busy working on the station. The antenna mast is now cut down to 7 m. The dish was completely disassembled and put back together again. The dish is en-forced and it seems that the stability has improved. Furthermore the reception of a local beacon is much better! We checked all components like the coax cables, hybrid, relays, etc. and found a bad terminator on the hybrid. The cabling from the shack to the top of the mast will be changed this week. If all goes well we will be on the air for the May activity weekend, and hope to get some comparative reports.

PY5ZBU

Don can now be QRV on either 70 and 23 cm -- I have installed my 432 feed in my big dish together with the 1296 feed, so I can be regularly active on 432 as well as 1296. I have engineered a fold down type of hinge arrangement for 432 so I can change bands in little more than 10 minutes. I listened to most of the 432 skeds this past weekend with a very high success rate, and later QSO'd on 432 DF3RU on random and KA0RYT on sked. Both with good signals.

RW1AW

Alex has finish his HPA (> 1 kW out). He is now fully QRV on 432 with 12 x 15 el BV yagis and his new amplifier, and looking for skeds and random QSOs. QSLs (pse SASE) and skeds are via DK3WG, (J.Fiedler, P.O.Box 1531, 15205 Frankfurt.)

RW3BP

Sergei missed his April skeds -- I was ready for the 2nd part of the DUBUS-REF Contest on 3 cm, but had to go into the hospital. I must go back to the hospital to solve my problems, should be OK for the May SW.

VE3MA

Barry in April completed on 10 GHz with **SM4DHN** for #11 initial and with **VE7CLD (M/M)** #12 - the smear was very bad but Gunter had a pretty good signals once they found each other. Barry is continuing his move up the bands and is now working on 24 GHz. He is working on preamps for 24 GHz and is getting his RX together. He has a NF meter working and has found that a modified 2 stage LUA amplifier with WG in/out is working best. He also has a HB 3 stage DB6NT WG in/out LNA running FB, but the NF does not seem as good as his LUA amp(?). He used NE329s vs 325s. He is modifying a JE1AAH

preamp for WG (3 stages) for comparison.

VE6TA

Grant sends an update of his activity on 70 cm -- I got the station up and running on 432 on 21 March and worked the following stations on 21 March **W7QX** and **KD4LT**, and on 24 March **K5JL**, **K4QI**, and **W7CNK**. I was on for the DUBUS/REF contest and found condx average to poor with a lot of polarity smearing - no clearly defined polarity much of the time. I did manage to work the following stations: **OE5EY**M for initial #6, **DK3BU** #7, **W7HAH** #8, **K2UYH** #9, **K5JL**, **JA5OVU** #10, **UR5LX** #11, **N2IQU** #12, **OE5JFL** #13, **DL9NDD** #14, **DF3RU** #15, **K4QI**, **G3LTF** #16 and **DL9KR** #17. After the contest I arranged a sked with Ron, **KA0RYT** for #18. I had a couple more skeds after completing with Ron, but it seemed like the band had totally shutdown. I will try again next sked weekend to add to my 70 cm initial count and will then switch back to 23 cm in May. I will be trying some 7211 type tubes in the 23 cm amp courtesy of Barry, **VE4MA** and will let you know how they work out.

W5HVQ

John is now located in EM35bc and says there is a chance that he will be back on EME, but probably only on 1296. John has the possibility of obtaining a 14' dish and wonder if it is big enough to work anyone? He can be reached at e-mail: [John, W5HVQ](#) [Definitely!]

W5LUA

Al proposes that the SWs be arranged so that the 1st day is primarily for 23 cm, and the 2nd for 70 cm and skeds on the micro- wave bands. Microwave skeds would alternate every other month from 13 to 3 cm (on the 2nd day). This will accommodate those that are active on 3 cm, but need time (portable operations) to setup. [Al is looking for S57UUU and OH2AXH for 3 cm skeds. He is leaving for Eur on 25 April and will be there for several weeks.]

WA6PY

Paul (x-SM0PYP) has reconstructed schematics of the power supply for Thomson's TH3631 10 GHz TWTA. The power supply number is TH22631K/RW. Paul has mailed copies to W4TJ and W2UHI. If anybody needs a copy of these schematics, contact W4TJ or Paul for help. He can also help with questions regarding this power supply's problems as he has had plenty of exercise repairing this thing! He hopes to have his new home in shape soon, and will then concentrate on EME. He plans to be fully QRV by the ARRL Contest.

K2UYH

I tried to arrange a sked with AL7OB, but never received a reply with regard to my proposal. As it turned out, I had a cloud burst at the time. My 432 preamp stopped working - possibly due to water. With all the rain, I did not try real hard

to repair it and missed my K7XQ sked. The next day it was working fine. On the 2nd day of the SW, on 24 April I switched over to 1296 and worked at 2116 I5MPK (559/559) on random for initial #168 - it took several calls to get his attention, 2143 K5JL (56/56) on SSB, who was joint at 2152 by VE1ALQ (55/54) to make it a 3-way, 22214 HB9SV (56/57) on SSB, 2244 K3HZO (549/539) and 2317 F3PL (559/569). I also was on 23 cm for the JA window (Sunday morning), but heard only N6BQ, who I QSO'd at 0522 (559/539).

NETNEWS

G4RGK, DAVID DIBLEY

DD1XF's telephone number in the April NL was incorrect. The right number is 00 49 4532 26 13 77.

W7SZ heard KD5FZX very loud and needs a sked.

UT3LL is running 4 x 27 BV yagis with open wire feedlien, 400W PA and 0.4 dB NF LNA.

W2UHI blew the final transistor in his transverter, and is temporarily QRT on 1296 until repairs are made.

K5WXN worked on 432 during the April SW DL8OBU for a new one on sked and W7CNK random, but then blew the input of his 70 cm xvtr.

KB4CNI worked on 432 in April K7XD, IK5QLO and JA5OVU but did not hear W7EME or W0KJY on sked.

I6PNN is QRV on 5760 and looking for skeds.

WE2Y completed in April on 70 cm with W7QX and K4QI. CWNR were W7GBI, DK3FB and DL9NDD.

KA0RYT completed 70 cm WAC in April by QSOing PY5ZBU for initial #111.

HP3XUG worked during the April SW DL8OBU, DL7APV and RW1AW. Louis looks for random QSOs around 432.022.

VE1ALQ is working on 12' dish for 10 GHz.

K1FO's 70 cm EME system is all functional, but Steve has been busy with house projects and not had much free time for operation.

N4CNN is working toward 23 cm EME. He has a 10' dish and is working on a GI7B PA.

FOR SALE

CT1DMK has 3 PCB's for my TWT power supply (main board, helix board and collector board) for \$US30. Main core (up to 350 W total dc) for \$US7. Helix core (any tube up to 10 kV helix) for \$US3, or all for \$US40 plus about \$US10 for shipping. Contact Luis via e-mail at:

[CT1DMK](#)

VK3ZQV is looking for info on 70 cm cavity low noise amps. Contact Mike at e-mail:

[VK3ZQV](#)

W1ZX, Willie has for sale a General Radio 1236 30 MHz IF Amplifier \$US150+S, General Radio 1216A 30 Mhz IF Amplifier \$US75+S, MFJ-784 Super DSP filter \$US145+s, HP 415E SWR Meter-brown unit (later build unit) \$US85+S, Noise Com Noise Diodes NC305, glass package \$US33+S, flat package \$US42+S. Call Willie at 301 645 5584 between 2000-2300 EST, FAX 301 645 6853, 24 hrs, or E-mail:

[W1ZX](#)

W4AD: is looking for info on a diagonal feedhorn for 1296.

W8TN has picked up some expanded flattened Aluminum 76" x 41 1/4" and has some leftover (0.030" thick with holes 0.160"x0.110") for \$US0.40 per 20 sq/ft.

K7XD is looking for information on driven elements for FO22 yagis.

VE4MA is looking for a manual to copy or a complete manual for a HP- 8690B.

TECHNICAL

This month we have a piece on TWTA power supplies by AA5C taken from the North Texas Microwave Society's newsletter.



[UT3LL array, 4 *27el BV 432 with 2 * 2m yagis](#)

[KB0PYO 10 ft Dish for 1296 MHz](#)

FINAL

In the past few months there has been considerable discussion on how to better coordinate skeds. Some feel we should abandon the single SW and have multiple SWs. I am very much against such a change. Although with e-mail, fax and inexpensive long distance telephone service, the need for the space of several weeks to distribute the skeds has gone the way of the Dodo bird, there is still a good reason to have a single SW... The same reason SWs were started more than 27 years ago... to concentrate activity. The more days and operating weekends scheduled, the less activity you will find on any one weekend. I am much more supportive of the idea of partitioning the SW for activity on different bands - see W5LUAs report. Most operators are in favor of this idea. The only question appears whether we should move the 23 cm activity to Saturday, and 70 cm activity to Sunday as Al proposes, or vice versa. I do not think it much matters, just as long as we get started! It may seem early with Brazil2000 still a year away, but we have proposal for 2002, see OK1DFC's report!

Please keep the information coming in. Technical reports are especially needed. I will be a Dayton on Saturday and hope to see many of you there and off the Moon the following weekend.

73, Al - K2UYH



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